Gender agreement in third and additional language acquisition: Evidence from grammaticality judgments

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Outline

- Transfer in gender agreement processes
- L3/Ln acquisition
- Study I
- Study II
- Conclusions

Grammatical gender

- “[G]enders are classes of nouns reflected in the behaviour of associated words” (Hockett 1958: 231)
- Morphosyntactic feature known as agreement between the noun and other targets, such as determiners (articles, demonstratives, quantifiers, etc.)
- For example, in order to produce the phrase ‘a house’ in Swedish, a learner needs to select the correct indefinite article ‘ett_{NEUT}’ that agrees in gender with the noun ‘hus_{NEUT}’

Transfer in gender agreement processes

- Predictors of more accurate gender agreement processes in L2 production and comprehension:

  Gender in L1 – ‘deep transfer’ (e.g., Sabourin et al. 2006)

  Similar gender agreement marking in L1 and L2 – ‘surface transfer’ (e.g., Foucart & Frenck-Mestre 2011)

- **L3/Ln**

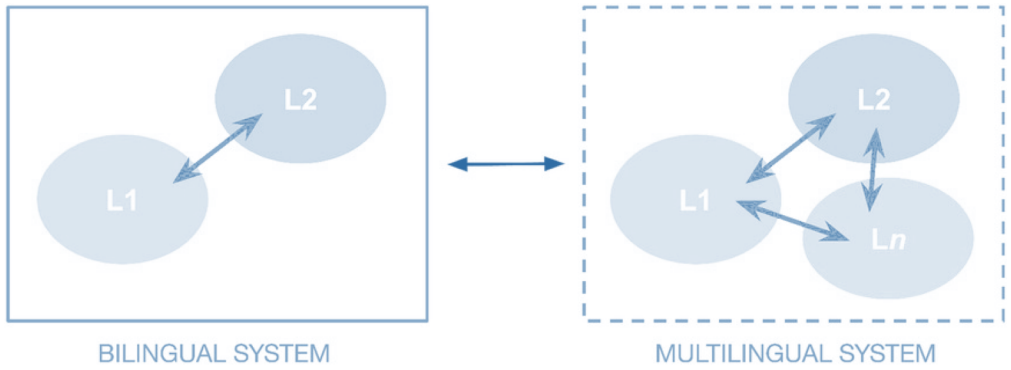
  Transfer from L1 Russian to L3 Spanish (Tararova et al. 2023)

  Possible transfer from L2 Spanish to L3 Portuguese (Iverson 2009)

→ more reseach needed!

L3/Ln acquisition

- Two linguistic systems already acquired
- L3/Ln learners have access to more linguistic representations than L2 learners
- L3/Ln acquisition differs from the acquisition of a L2 due to several properties which characterize neither L1 nor L2 acquisition
- **Cross-linguistic influence**



Cross-linguistic influence in L3/Ln

Source

- There is no CLI
- CLI comes exclusively from L1
- CLI comes exclusively from L2
- CLI may come from either language
- CLI may come from both L1 and L2 at the same time

Extent

- Wholesale versus partial

Nature

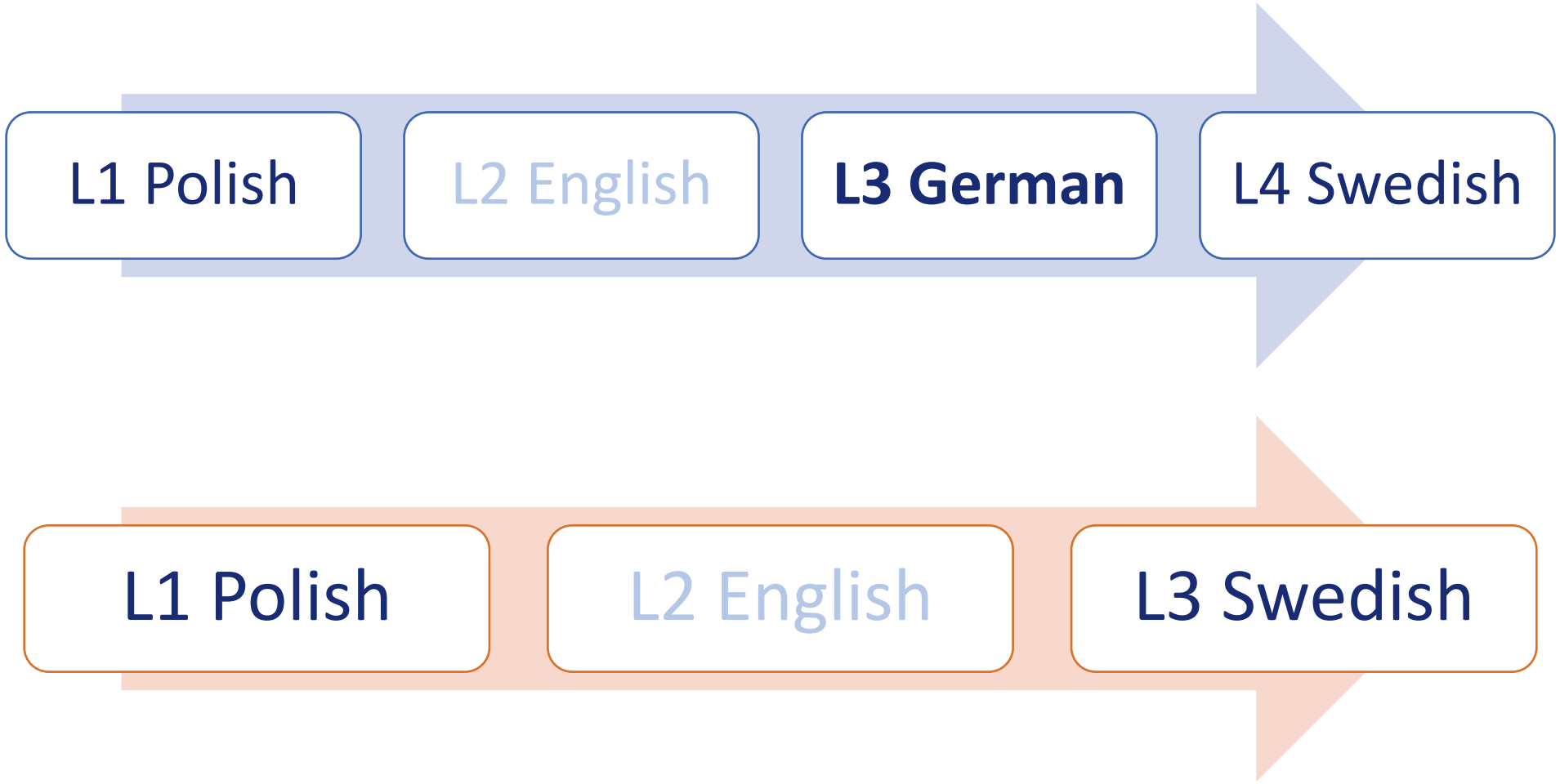
- Facilitative versus non-facilitative

Timing

- The initial state versus further development

Study I

Wider context



Gender marking

Swedish	ett hus (‘a house’)	NEUTER
	en skog (‘a forest’)	UTER
German	ein Haus (‘a house’)	NEUTER/MASCULINE
	eine Lampe (‘a lamp’)	FEMININE
Polish	to/jakieś okno (‘this/some window’)	NEUTER
	ten/jakiś dom (‘this/some hous’)	MASCULINE
	ta/jakaś lampa (‘this/some lamp’)	FEMININE

Research questions

RQ1. Does knowledge of non-native German in addition to native Polish facilitate processing gender agreement in L3/Ln Swedish?

RQ2. Does the effect of German, if any, depend on proficiency level in L3/Ln Swedish?

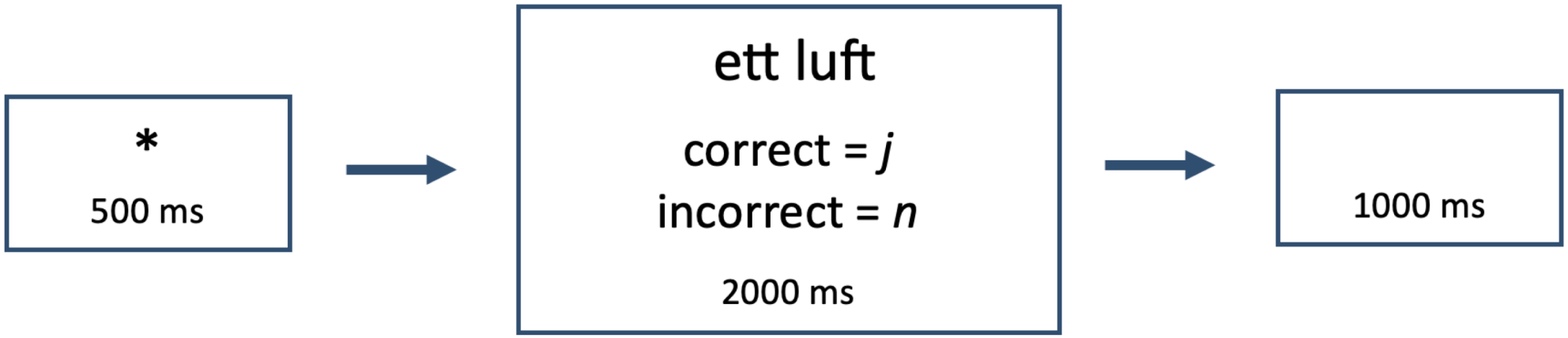
Participants

	Intermediate (A2–B1)	Advanced (C1)
L4 Swedish group:		
N	14	16
Sex	13 females, 1 male	10 females, 6 males
Age	24.14 (4.82)	24.88 (2.96)
Swedish proficiency	4.60 (1.65)	7.53 (0.74)
AOA of Swedish	21.50 (3.55)	19.50 (1.15)
German proficiency	6.16 (2.40)	6.04 (2.11)
AOA of German	10.71 (3.05)	10.81 (3.87)
English proficiency	7.45 (1.0)	7.25 (1.59)
AOA of English	9.43 (3.57)	7.56 (2.78)
L3 Swedish group:		
N	18	12
Sex	16 females, 2 males	7 females, 5 males
Age	26.0 (6.59)	25.17 (4.24)
Swedish proficiency	4.51 (1.13)	7.61 (0.83)
AOA of Swedish	22.83 (5.83)	20.08 (3.40)
English proficiency	8.38 (0.82)	8.63 (0.74)
AOA of English	6.50 (2.71)	6.50 (1.51)

Note. Standard deviations are given in parentheses.

Method

Speeded Grammaticality Judgement Task



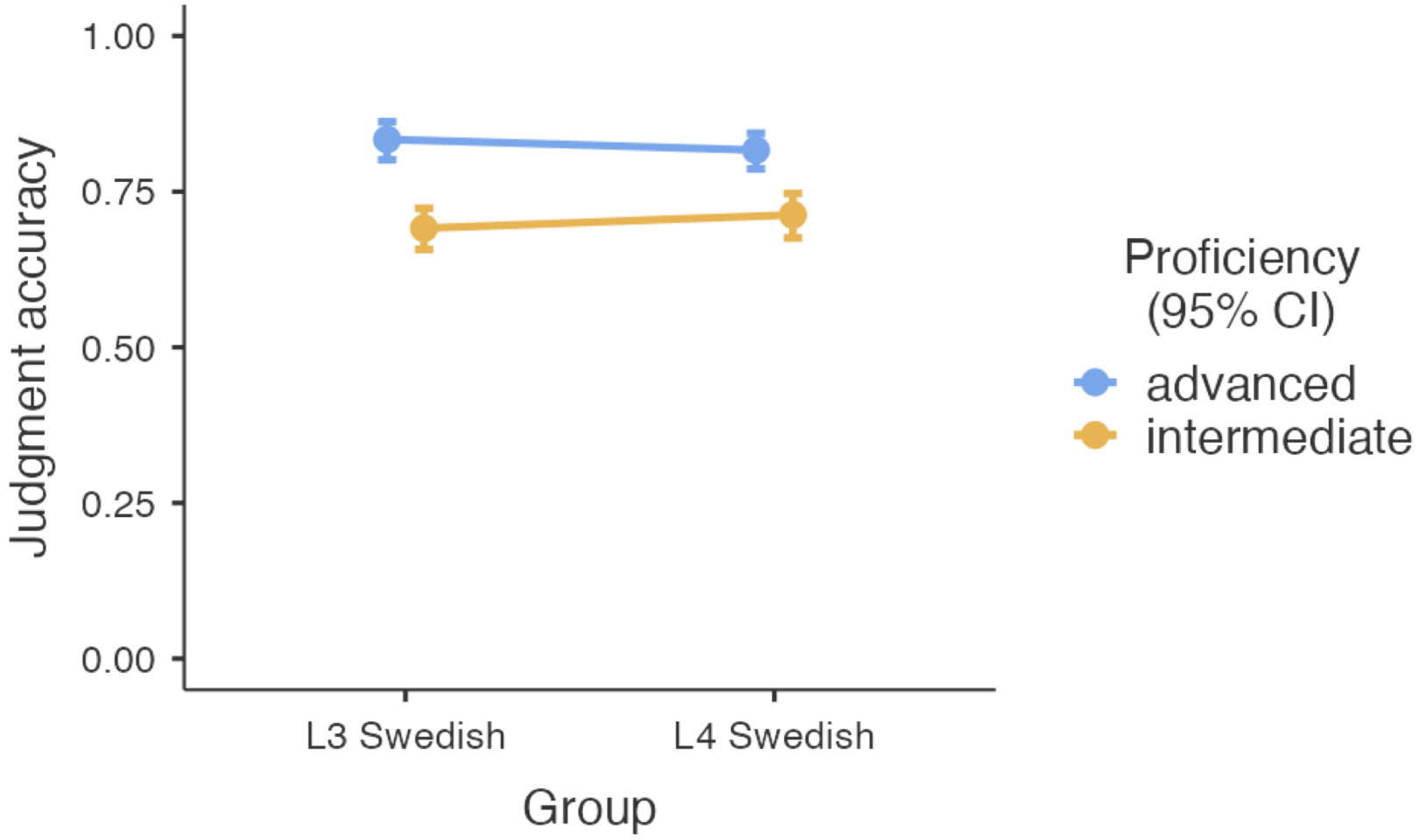
Stimuli

- 44 determiner phrases, e.g., ‘ett hus’
- Half correct, half incorrect
- Half neuter, half uter
- Only inanimate nouns
- Only non-transparent nouns (no formal cues to gender)
- Nouns matched across genders and phrase types in
  - number of letters
  - form similarity to Polish, English, and German (Levenshtein distance)
  - frequency in Swedish (Swedish Kelly-list)

Data analysis

- Generalised Linear Models for Accuracy (binary distribution and logit link) and Response Time (gamma distribution and identity link)
- Group (L3 Swedish, L4 Swedish) and Proficiency (intermediate, advanced) as predictors
- The Bonferroni test as a post-hoc
- Exclusions: RTs > 2000 ms (8.49%) and +/- 3 SD (0.04%)

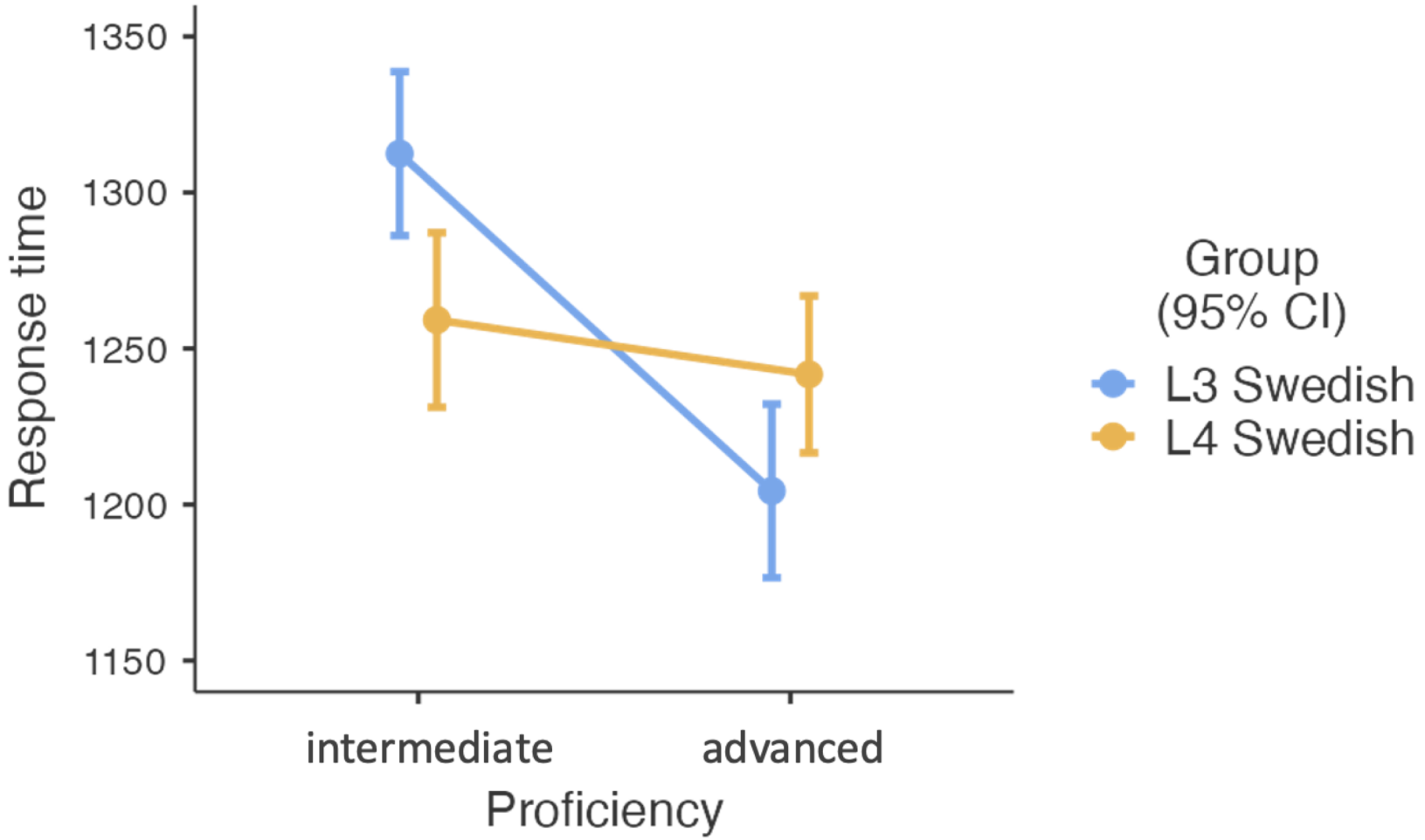
GJT – Accuracy



Significant
Proficiency

Not significant
Group
Group x Proficiency

GJT – RT



Significant
Proficiency
Group x Proficiency

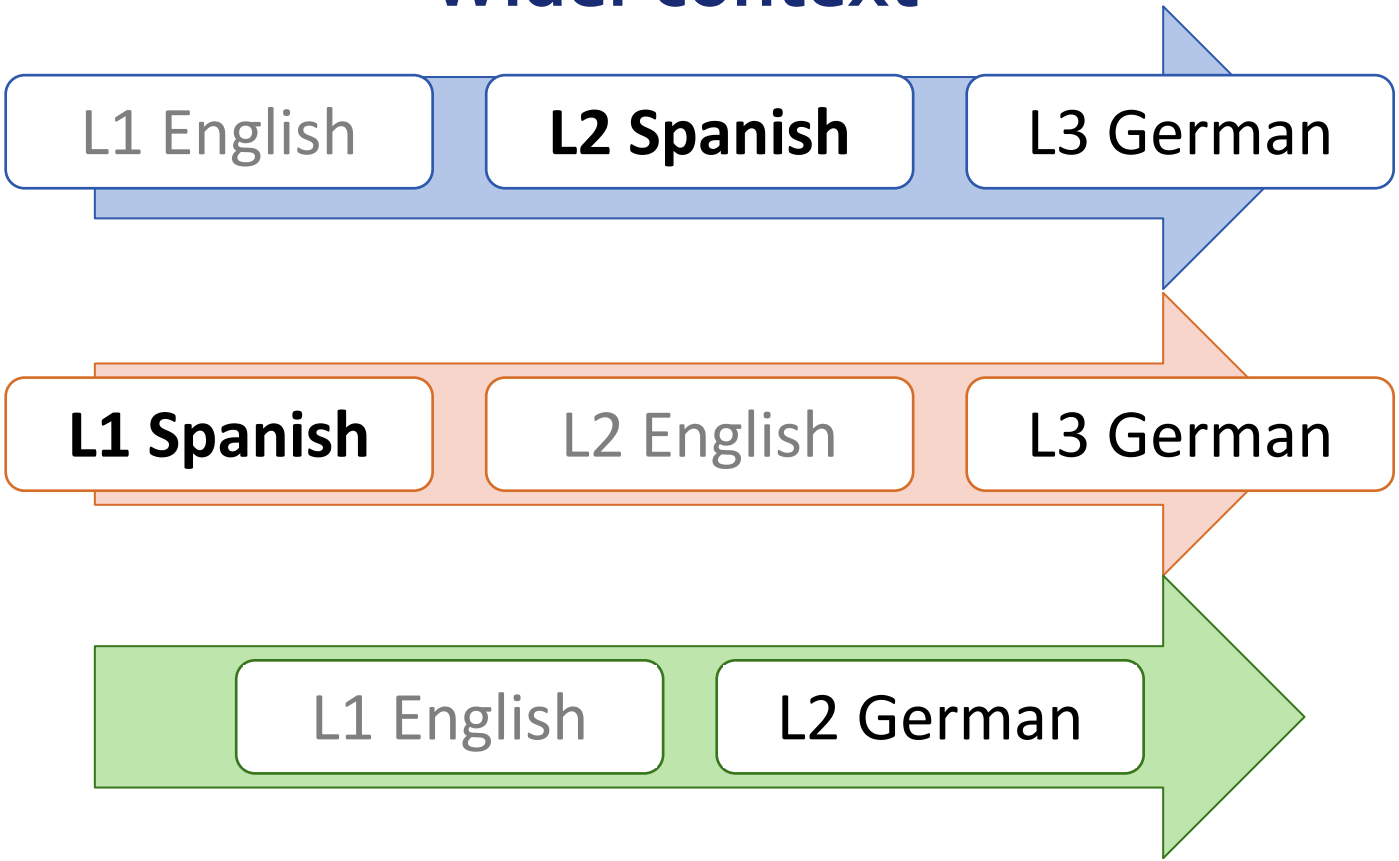
Intermediate:
L4 S faster than L3 S
(and as fast as L3 advanced)

Interim conclusion

- More automatized gender agreement processes in L3/Ln Swedish due to surface transfer from non-native German
- **Non-native grammar matters for the acquisition of gender agreement in L3/Ln**

Study II

Wider context



Gender marking (Definite Articles)

Spanish	el libro (‘the book’)	MASCULINE
	la casa (‘the house)	FEMININE
German	der Stift (‘the pen)	MASCULINE
	die Lampe (‘the lamp’)	FEMININE
	das Haus (‘the house’)	NEUTER

Research questions

RQ1. Does native (L1) gender knowledge facilitate processing of L3 gender differently than non-native (L2) gender knowledge.

If yes, how so?

RQ2. Can this CLI occur across more typologically distant language pairs (Romance vs. Germanic), especially when more typological similar but unhelpful grammatical information could transfer from English?

Participants

Language Background	N
L1 English **L2 Spanish** L3 German	11
L1 Spanish L2 English L3 German	10
L1 English L2 German	11

- Sequential Spanish/English bilinguals (L2 AoA >7)
- All “beginner” German learners (> 1 year (two semesters) German instruction)
- Spanish proficiency = “Intermediate” (B2 or above)

Method

Grammaticality Judgement Task

No Time Limit

Key Questions: Grammatical Gender Mismatch

Das Baum ist groß.

The$_{[N]}$ tree$_{[M]}$ is tall.

Stimuli

- 36 target phrases with nominative definite determiners
- Half correct, half incorrect
- 12 masculine, 12 feminine, 12 neuter
- Only inanimate, non-transparent nouns (no formal cues to gender)
- Nouns matched across genders and phrase types in
  - Gender of Spanish translation equivalent
  - frequency in U.S. German college textbooks

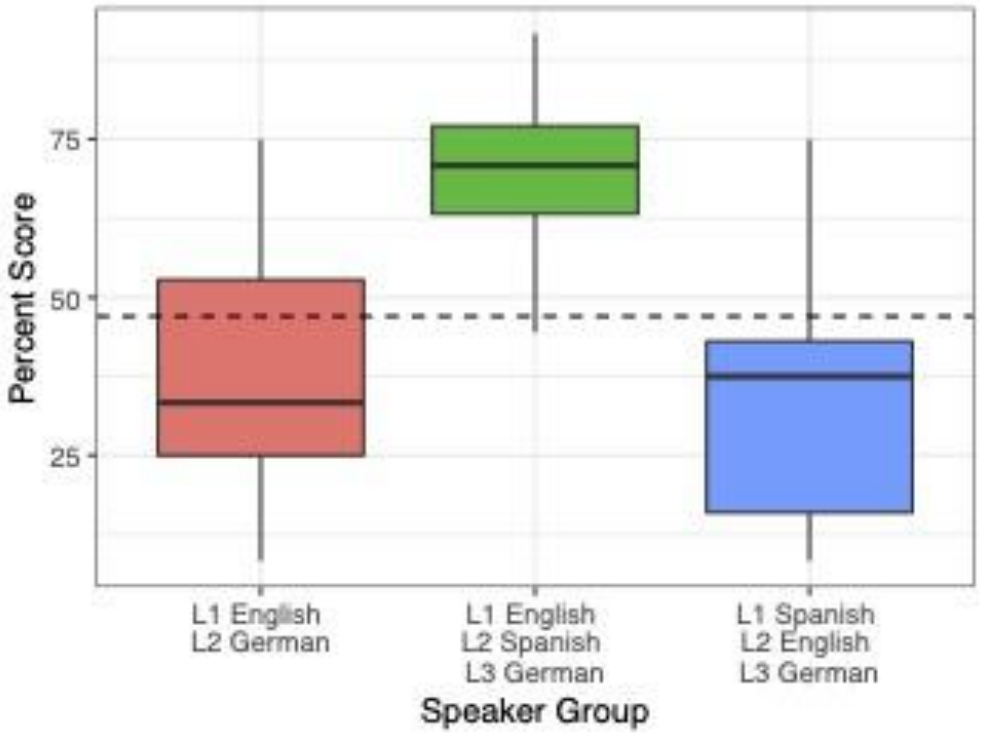
Data analysis

- Note testing **gender agreement, not gender assignment**

- Mixed Effects Logistic Regression Models for Accuracy
  - Dependent variable = participant response (acceptable/unacceptable)

  - Predictors =
    - Group -L1 English/L2 Spanish/L3 German, L1 Spanish, L2 English L3 German, or L1 English L2 German)
    - German gender
    - Spanish Gender as predictors.

GJT – Accuracy



Significant
L1 English L2 Spanish L3 German Group

No other significant predictors or interactions

Experiment 2 Conclusions

- In early stages of German learning, automatized gender agreement processes in L3 German due to surface transfer from non-native Spanish.
- No evidence of deep transfer at this stage from L1 Spanish.
- No evidence that typological distance inhibits transfer.
- **Once again, non-native grammar matters for the acquisition of gender agreement in L3/Ln.**

Overall Takeaways

- Non-native gender knowledge plays a **different role** in the development of a new gender system than native gender does.
- The L3 gender acquisition process is **unique** from that of L1 and L2.
- x still remains to be explored!

Questions?

Thank you!!!

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You can access our slides here:

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